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## NAC\*: A new regional structure

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\*Neo-tertiary Airport Cluster

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### Synopsis

In the contemporary territorial context, infrastructural networks of mobility have changed social behaviours and urban structures in a relevant way. Air mobility, along with airport infrastructure, is key in the positioning of city-regions in the global network. In the last decades the airport has become an urban element capable of structuring the city-region on a local scale.

This research tries to determine the key aspects of this infrastructure and its surrounding territory based on the analysis of case studies located in different contexts (geographical, territorial-urban and socioeconomic). This study brings to light the importance and capacity an airport can have not only in the positioning of the region on a global level but also in the implementation of its local structure.

Moreover, these case studies underscored the qualities that can be implemented in the territory surrounding the airport with the aim of encouraging its evolution towards a cluster. Consequently, the infrastructure acquires the implicit qualities of an urban entity identified as an NAC (Neo-tertiary Airport Cluster).

**Key words:** City-region, airport, cluster, neo-tertiary, glocal.

## 1. Introduction

This extended abstract is part of a research at a global scale about the territorial tendencies that take place in certain city-regions connected to airport hubs (NACs).

In the urban context, (physical or digital) **infrastructures**<sup>1</sup> acquire a crucial relevance when it comes to structuring a territory. Currently, the scope of action of infrastructures in the socio-economic development of a territory is moving towards a regional scale. **The city-region is situated as the main territorial scale in the management of globalisation.** It can be considered the point of confluence where the laws of globalisation are intermixed with local realities.<sup>2</sup>

In this contemporary context, inhabited by the information society<sup>3</sup>, **airports** play an essential role since they have acquired new functions beyond the transport infrastructure. New airport-associated functional programmes have consequences for the architecture of **airports** themselves and **the territory that surrounds them**, and come to create **new territorial structures**.

To understand the current state, the research **retroactively analyse** the processes that conditioned the territorial fragment connected to the airport. A key question is **the exploration of the potentialities of the new territorial structure linked to the new airport model** that is capable of assuming and profiting territorially from the great socio-economic potential that a high concentration offers. Additionally, the research studies the importance of the specific **local context** in the final development and future consolidation of these new territorial structures.

## 2. Methodology of a retroactive analysis

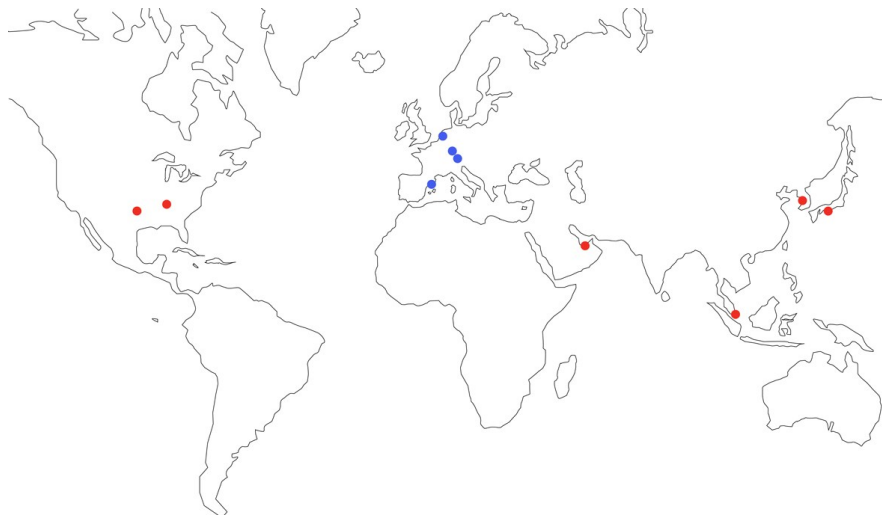


Figure 1. Case studies. Developed by the author.

<sup>1</sup> Manuel Castells, *La era de la información: economía, sociedad y cultura I, La sociedad red* (Barcelona: Alianza Editorial, 2008).

<sup>2</sup> Richard Forman, *Urban Regions. Ecology and Planning Beyond the City*, 1st ed. (United Kingdom: Cambridge University Press, 2008); John Friedmann, 'Intercity Networks in a Globalizing Era', in *Global City-Regions, Trends, Theory, Policy*, ed. Allen Scott (Oxford University Press, 2001), 119–38; Richard Child Hill and June Woo Kim, 'Global Cities and Development States: New York, Tokyo and Seoul', *Urban Studies* 37, no. 12 (2000): 2167–95; Michael Storper, 'Regional Economies as Relational Assets', *Revue d'Economie Régionale et Urbaine*, 1996, 655–72.

<sup>3</sup> Manuel Castells, *La Sociedad Red: Una Visión Global* (Alianza Editorial, 2006).



A review of the **territory surrounding** the airport is carried out from various disciplinary perspectives identifying the most relevant transformations made in each historic period.

The research examines the processes of European city-region contexts in comparison with the different realities worldwide (Fig.1). **Case studies** (Barcelona, Amsterdam, Zurich, Frankfurt; Dubai, Singapore, Kansai, Incheon, Dallas-Fort Worth, Memphis) have been chosen that show different situations from urban, geographical, social, economic, political, dimensional and functional points of view.

The retroactive vision is developed through two strategies. Firstly, a regional territorial analysis of different scales of the urban processes and developments is carried out. The territory, urban systems, communication infrastructure, geographical features are **drawn** and represented with the same parameters and criteria (Fig.2,3,4). Secondly, there is an observation to the territory through a management of **statistical data** and how it implies transformations in the infrastructure itself and the nearby land. The territorial structures are analysed studying the same parameters in each case and generating a comparative study that then links them all.

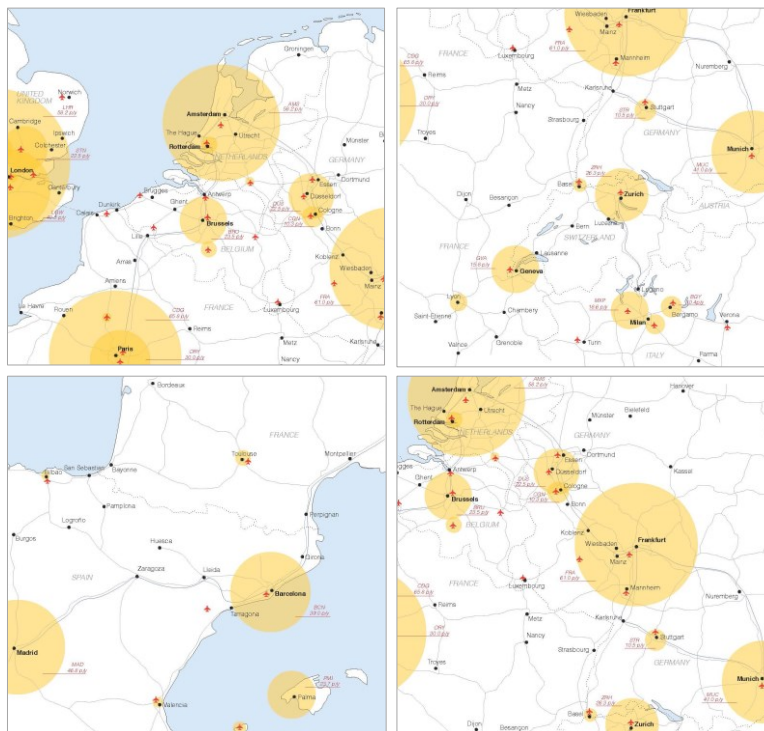


Figure 2. City-Regions, major airports. Case studies: Amsterdam, Zurich, Barcelona, and Frankfurt. Developed by the author.

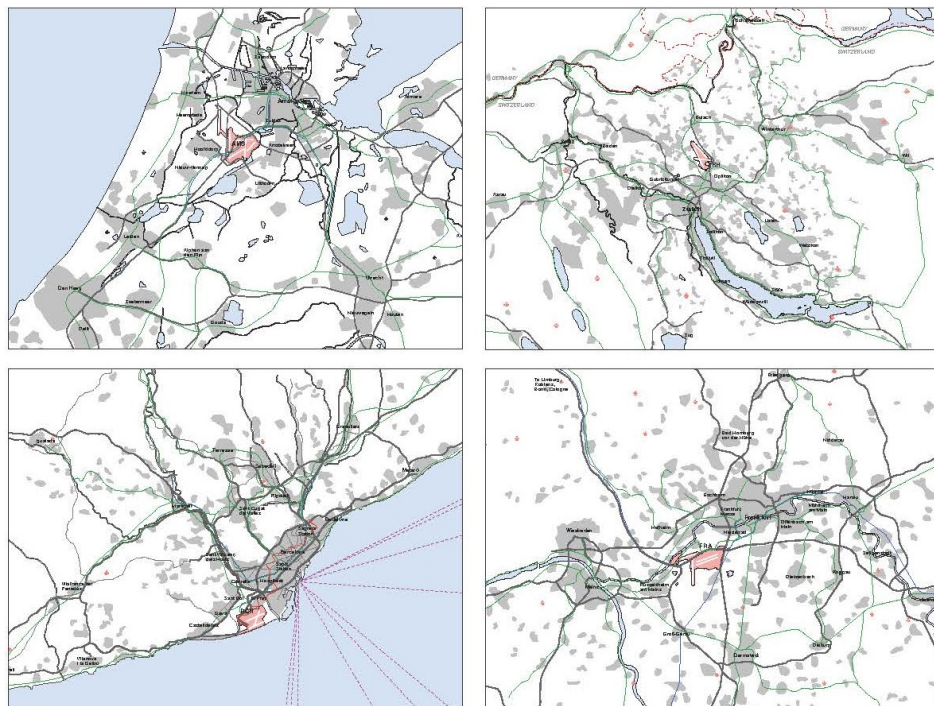


Figure 3. Airport and surroundings' connectivity. Case studies: Amsterdam, Zurich, Barcelona, and Frankfurt. Developed by the author.



Figure 4. Programmes in the airport neighbouring territory. Case studies: Amsterdam, Zurich, Barcelona, and Frankfurt. Developed by the author.

### 3. Contemporary evolutionary tendency

Through the analyses, it is detected an evolutionary tendency of the airport and the neighbouring territory. Case studies share a similar evolutionary pattern however they show different current states within the global tendency.

Fundamentally, the transformation phases are conditioned by the consolidation of tertiary activities linked to the functioning of the infrastructure, such as the consolidation of great flows, the behaviour as regional centralities and the influence in the local economy and urban structure.

The findings allow intervening in the regional area connected to a major airport looking for a solution to contemporary and future issues. Additionally the research highlights the role and potentialities of the **local context** in addressing these issues.

The research identifies the territorial structure of the **NAC** as the consolidation of this evolutionary pattern and its final state because the close collaboration and the synergetic behaviour of the infrastructure and the adjacent territory.

### 4. NAC (Neo-tertiary Airport Cluster)

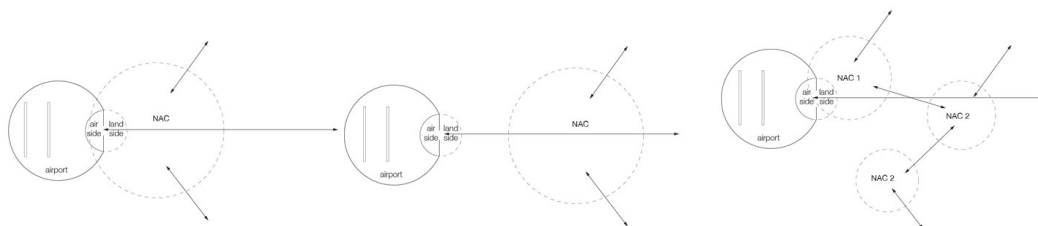


Figure 5. NACs' configuration. Developed by the author.

From the beginning of the modern-industrial period, the interaction between territory and economic activity has been demonstrated through **new types of settlements** in the form of industrial clusters<sup>4</sup>. Modern theories on centrality promote these proposals, as well as the verification of their advantages resulting from the interaction between various industrial processes that were carried out in physical proximity.<sup>5</sup>

The NAC arises precisely as a **complex urban structure** adjoining an Airport (Fig. 5), with the potential and complexity to improve the efficiency of the airport system and the city-region's urban and socio-economic template. In this sense, the following concepts synthesise the basic points for the conceptualisation and implementation of an NAC and define its **territorial capacities at a regional level**.

<sup>4</sup> Giacomo Becattini, *Il Distretto Industriale* (Torino: Rosenberg & Sellier, 2000).

<sup>5</sup> Bruce Katz and Jennifer Bradley, *The Metropolitan Revolution. How Cities and Metros Are Fixing Our Broken Politics and Fragile Economy*, (Washington: The Brookings Institution, 2013); Michael E. Porter, 'The Economic Performance of Regions', *Regional Studies* 37, no. 6–7 (2003): 549–78; Michael Storper, *Keys to the City: How Economics, Institutions, Social Interaction, and Politics Shape Development* (Princeton: Princeton University Press, 2013).

- **NAC's urban nature** is not exclusively the consequence of the evolution of an airport. The NAC is a new type of urban organisation and it is designed intentionally to reinforce regional efficiency. The NAC takes advantage of the build up of strong flows generated by the airport hub and the new territorial isotropy driven by new technologies and globalisation.

- **The NAC is a programmatically complex and functionally hybrid cluster.** It contains neo-tertiary and service programmes but also can include residential structures. This configuration would have the objective of balancing the proportion of jobs and the ideal number of possible "residents"<sup>6</sup>.

- **NAC's connectivity and mobility** have strong regional connections with direct access from various regional centres and also access via the adjoining airport hub.

- **NAC's critical mass and dimensional scale** should be optimised in relation to other clusters and sub-centres that make up the regional archipelago.

- **NAC's optimum density** tends to be high and suitable for the generation of a morphologically **compact** cluster, in agreement with its free type of structure.

- The **NAC** tends to configure itself as a **new regional centrality**. Although its origin lies in taking advantage of large flows created by the adjoining airport, the NAC has a critical mass and a sufficient complexity to operate independently.

- **NAC's design and construction** should be capable of guaranteeing a high **metabolic efficiency**.

- Airport-NAC interaction can be an opportune territorial instrument for the **activation of an unpopulated region** with low employment.

- Airport-NAC interaction should become an appropriate territorial instrument to **improve urban resilience**.

- **NAC's architecture** should operate as a nexus between the **expected iconicity** of the Airport, its **own local identity** and the **local context** of the region in which it is developed.

It is important to underscore that the points listed above are not apparent in the same way or to the same level of intensity in each case study scenario. Even though case studies follow a trend towards developing a common tendency, the configuration of an NAC is clearly influenced by the characteristics of the **local-regional context**.

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<sup>6</sup> Joel Garreau, *Edge City. Life on the New Frontier*. (Anchor Books, 1991).



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## Biography

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